

TITLE: Slidable windshield wiper for aut mobiles**BACKGROUND OF THE INVENTION**

The present invention relates to automobile parts and more particularly to a slidable windshield wiper for automobiles which has a specially designed wiper arm enables the windshield wiper blade to slide about during wiping operation and to go different tracks between the up and downward movements.

Windshield wipers are of the indispensable parts for an automobile running in the rain. The driver uses the wipers to wipe out the rainwater to clear up the field of sight for safety driving.

However, the wiper blade rubber will become hardened without flexible property after long time use under the sunshine and the rainfall. Therefore, could not effectively wipe out the water on the windshield. Further, the dirt, contamination as well as the oil stains or the free leaves under the blade rubber hinder the wiping efficiency of the wiper.

Figs. 1 and 2 shows a prior art windshield wiper which comprises a windshield 1, at least one of the wiper arm 2 pivoted under the windshield 1, a wiper blade 3 pivoted to the top of the wiper arm 2 and a blade rubber secured under the wiper blade 3 and closed to the outside of the windshield 1. Due to that the up and downward movements of the wiper

blade 3 follow the track, the water will not be effectively removed if the blade rubber 4 is serrated or cracked but causes the traces on the windshield (as shown in Fig. 2) that seriously hinders the sight of the driver and causes an
5 accident.

SUMMARY OF THE PRESENT INVENTION

The present invention has a main object to provide a slidable windshield wiper for automobiles which has a slidable wiper blade to follow the different tracks between the up
10 and downward movements in order to completely wipe out water traces on the outside surface of the windshield without remaining any traces so as to clear the sight of the drivers who are driving in the rain and to prevent from an accident.

Accordingly, the slidable windshield wiper of the present
15 invention comprises generally a pair of wiper arms pivoted under the windshield of an automobile and each having a wiper blade on the top and each of the wiper blade having a blade rubber on the underside closing to the windshield. The feature is that the wiper arms each has an articulation rod
20 which can be able to change the angle to facilitate the wiper blade following the different tracks between up and downward movement so as to completely wipe out the water without remaining any traces on the windshield.

The present invention will become more fully understood
25 by reference to the following detailed description thereof

when read in conjunction with the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of a windshield wiper according to a prior art,

5 Figure 2 is a plane view to show the windshield wipers of Fig. 2 in operation,

Figure 3 is a plane view of the windshield wiper of the preferred embodiment according the present invention while the wiper blade moves upward,

10 Figure 4 is a plane view of Fig. 3 while the wiper blade moves downward,

Figure 5 is a plane view indicating the different tracks between the up and downward movement of the wiper blades,

15 Figure 6 is a plane view of the windshield wiper of an alternate embodiment of the present invention while the wiper blade moves upward, and

Figure 7 is a plane view of Fig. 6 while the wiper blade moves downward.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

20 With reference to Figs. 3, 4 and 5 of the drawings, the slidable windshield wiper for automobiles of the present invention comprises at least a wiper arm 10 pivoted to a bottom of the windshield 30, a wiper blade 20 pivoted to a top of the wiper arm 10 and positioned under the wiper arm
25 10, an articulation rod 11 pivoted to the top of the wiper

arm 10 by a rivet. The articulation rod 11 has a hook connected to an elastic plate of the wiper blade 20 (not shown), a sloped underside 111 and a plane underside 112 on the lower end of the articulation rod 11. When the sloped underside 111 stops against the top of the wiper arm 10, the wiper blade 20 will form a slant angle relative to the wiper arm 10 and when the plane underside 112 stops against the top of the wiper arm 10, the wiper blade 20 will be parallel to the wiper arm 10.

10 In operation, when the wiper arms 10 actuate the wiper blades 20 with the blade rubbers 21 moving upward, the plane undersides 112 of the articulation rods 11 are automatically stopped against the top of the wiper arms 10 due to the friction drag caused by the upward movement of the blade rubbers 21 which move along with the track A (as shown in 15 Figs. 3 and 5). When the wiper blades 20 move downward, the friction drag of the blade rubbers 21 force the articulation rods 11 to turn a certain angle to have its sloped undersides 111 automatically stopping against the top of the wiper arms 20 10 and the wiper blades turn an angle either to move along with the track B (as shown in Figs. 4 and 5).

Normally, if the blade rubber of a conventional windshield wiper is serrated and/or cracked, its up and downward movement must leave a plenty of traces on the outer surface of a 25 windshield 30. But the windshield wiper blades 20 of the

present invention solves this problem by moving the wiper blades 20 along with the different tracks A and B between their up and downward movements without leaving any traces on the outer surface of the windshield 30. Since the windshield 30 is clear. The sight of the driver will not be ambiguous in the rain so as to prevent from an accident.

Referring to Figs. 6 and 7, an alternate embodiment of the windshield wiper is provided. This windshield wiper is structurally and functionally most similar to that of the above embodiment described in Figs. 3 to 5 and the above discussions are applicable in most instances. The only change is that the articulation rod 11 is replaced with an articulation rod 41 which connects to the top of the wiper arm 10 by a roughly V-shaped elastic member 42. The upper portion 421 of the V-shape forms about 50 degrees angle relative to a horizontal central line. Whereas, the lower portion 422 of the V-shape forms about 30 degrees relative to the horizontal central line. Due to the different angles of the upper and lower portions 421 and 422 and the friction drag of the blade rubbers 21, the up and downward movements follow different tracks C and D that achieves the same result as doing by the about embodiment.

The windshield wiper blades 20 of the present invention is characterized in low cost but achieving greater effectiveness. Further, the connection of the articulation rod 11 (41) with

the wiper arm 10 may be replaced with a hydraulic or pneumatic rods or a guide and/or guide rod. But it are all within to the scope of the present invention.

Note that the specification relating to the above
5 embodiment should be construed as an exemplary rather than as a limitative of the present invention, with many variations and modifications being readily attainable by a person of average skill in the art without departing from the spirit or scope thereof as defined by the appended claims and their legal
10 equivalents.

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